VTC-IRA40/3516

750 TV Line Day/Night
IR Bullet Camera
w/150' Range (960H)

- 1/3" High density Sony® CCD (960H)
- High Resolution of 750 Horizontal Lines
- Sony Effio-A Digital Signal Processor
- Simple Installation with External Focus and Zoom control and one turn mount positioning lock
- True Day/Night by ICR (Infrared Cut Removal)
- E-WDR by ATR-EX (Adaptive Tone Reproduction)
- 40 Infrared LEDs at 850nm enable viewing in total darkness up to 150 feet
- 0.003 Lux (Sens-up Off) / 0 Lux (IR-ON)
- 3.5-16mm Varifocal Auto Iris Lens with External Adjustments for Focus and Zoom
- True Day/Night by ICR - Infrared Cut Removal
- XD-DNR (2D+3D DNR) Advanced Digital Noise Reduction
- Built-in Motion Detection with a 24x16 Grid
- OSD (On Screen Display) menu and Camera ID
- Dual Glass Compartments to Eliminate Glare
- IP68 NEMA Rating
- Heavy Duty Mount with Cable Feed Through
- Secondary Video Output & OSD Control Joystick are accessible inside a gasket sealed removable side panel
- 24VAC/12VDC Dual Voltage

CERTIFIED
SAFETY US-CA
E464262

Safety Precaution

- To prevent fire or shock hazard, do not expose the unit to rain or moisture.
- To prevent electric shocks and risk of fire hazards, do NOT use other than specific power source.

The symbol is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.

The symbol is intended to alert the user to the presence of important operating and maintenance(servicing) instructions in the literature accompanying the unit.

- **Warning** :
  This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

- **Caution** :
  Any changes or modifications in construction of this device which are not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.
  Mains power quality should be that of a typical commercial environment. If the user of the model requires continued operation during power mains interruptions, it is recommended that the model be powered from an uninterruptible power supply (UPS) or a battery.

Safety Precaution

NOTICE

- The image used in this instruction manual are processed to help comprehension and may differ from actual video of the camera.
- Avoid installing areas where has shock or vibration which results in the problems.
- Pay attention to safety when laying the connection cable and observe that the cable is not subjected to heavy loads, kinks or damage and no moisture can get in.
- Never open the device such as boards or lens.
  The warranty becomes void if repairs are undertaken by unauthorized persons.
- Maintenance and repair have to be carried out only by authorized service centers.
- Use only a mild detergent to clean the housing.
- The camera should never be operated beyond the technical specifications.
  This can lead to destruction.
- The camera should never be operated in water.

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Features

Key Features

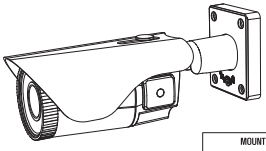
- 1/3” High density Sony CCD (960H)
- 750TVL High-Resolution
- D-WDR by ATR-EX
- TDN with Dual Filter Switcher
- 3.5~16mm F1.2 DC Auto Iris Vari-focal Lens
- XD-DNR (2D+3D DNR) Advanced Digital Noise Reduction
- Improved IR-Optimizer
- DIS(Digital Image Stabilizer)
- Scene Preset, LSC (Lens shading compensation), Motion detection, E-Zoom, Polygon privacy mask(up to 15), Defog, Sens-up, BLC/HLC
- External Zoom & Focus adjustment
- IR-LED 40pcs
- Up the Coaxial (UTC) communication
- OSD Menu & Video Sub-out port for easy installation & maintenance
- Circuit protection against faulty connection in power polarity
- Isolated power supply against ground loop problem
- Dual Window, One-touch 3-Axis locking bracket, Easy installation pad
- IP68 Protection

General Description

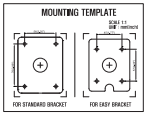
This is an ultra-clear resolution camera which realizes over 750TVL resolution and a crisp color reproduction with SONY 960H CCD and Effio-A Enhanced image signal processor.

- With Effio-A series Enhanced digital imaging system,
  - Delivers the crystal clear images providing 750TVL resolution in conjunction with SONY 960H High density CCD.
  - They are provided ‘D-WDR by ATR-EX’ function
  - Color signal processing provides the optimum balance between the luminance and chroma signals for high color reproducibility even for the detail scene which contains very high spatial frequency.
  - Incorporates 2D+3DNR signal processing.
- With ICR mechanism,
  - Enhances its sensitivity about 10x at night time
  - Can accepts the infrared light

Composition

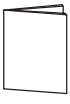


Camera



Mounting Template

Easy Bracket



Operating Instruction

Cable Signal Sticker

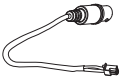
Plastic Anchor: 6 x 30mm (4pcs)

Mounting Screw: 4 x 30mm (4pcs)

Assembly Screw: 4 x 14mm (4pcs)

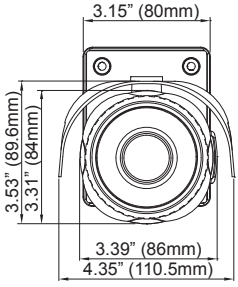
Torque Wrench: 3mm (1pc)

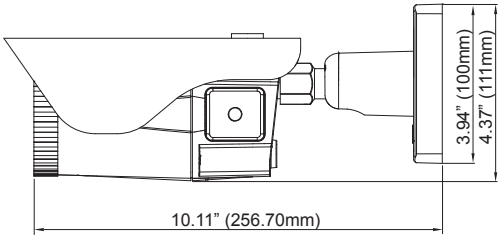
Video Sub-out: Cable (1pc)



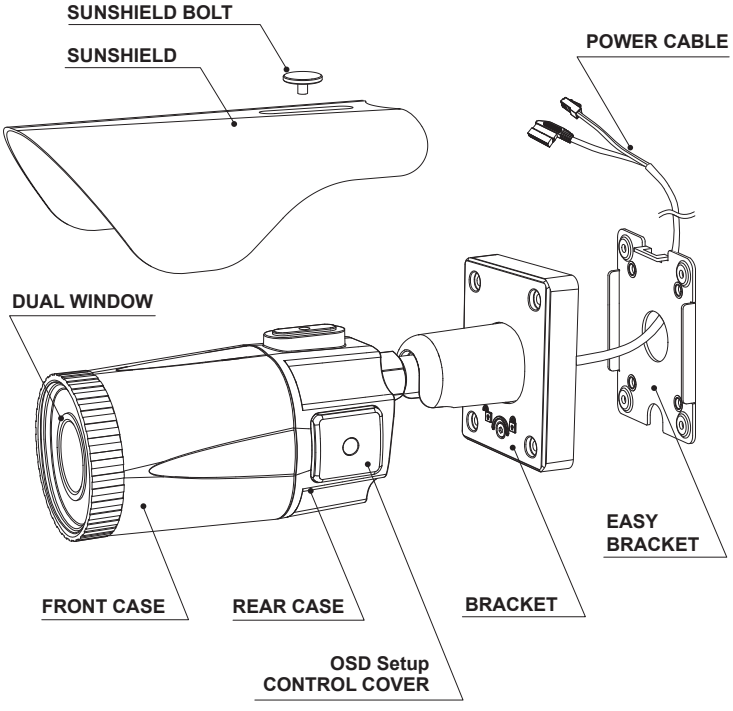
Wiring Connector: (1pc)

Dimensions





Part Names

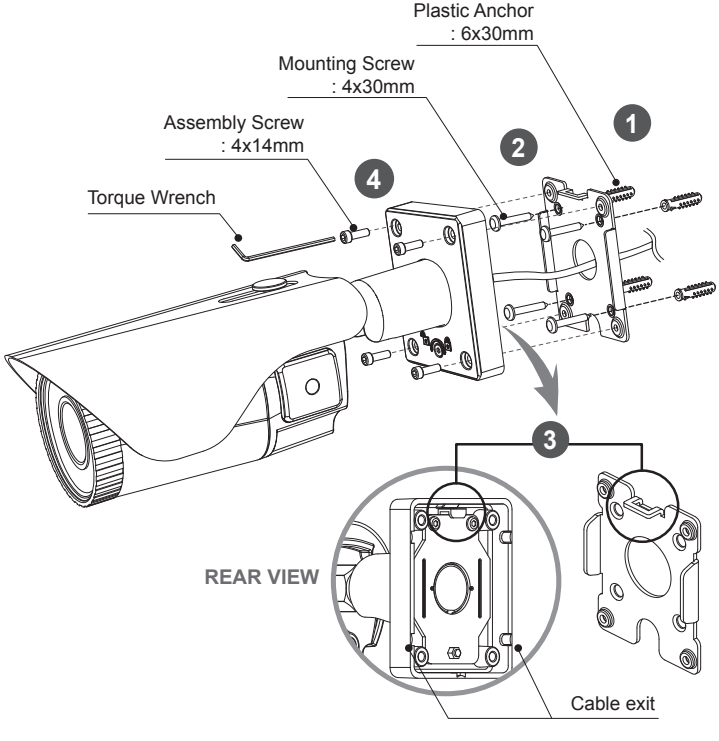


CAUTION

- Extreme care should be taken NOT to scratch the window in front of lens.
- Care should be taken the cable is NOT damaged, kinked or exposed in hazardous area.
- Do not expose the camera lens directly to a strong light source such as the sun or spot light.

Installation Instructions

1. Place the mounting template at the installation position and drill the ceiling or wall if needed. (*The easy bracket can not be installed on the ceiling)
2. Place the easy bracket on pre-drilled position and attach using the mounting screws(4x30mm). Skip this step when an easy bracket is not installed.
3. Route the power cable to the connecting place.
   Hook up the camera bracket with the easy bracket as illustrated below.
4. Attach the camera bracket through using assembly screws (4x14mm).
5. Set the camera's viewing angle.
6. Place the sunshield onto the camera unit and tighten the sunshield-bolts.

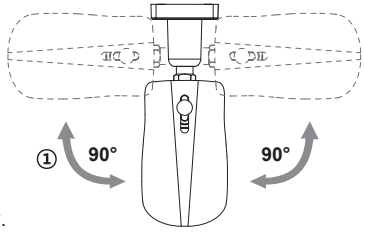


Installation Instructions

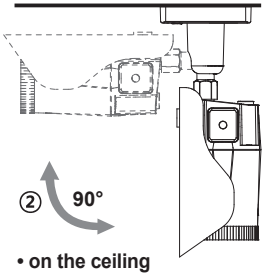
Pan & Tilt adjustments

- Unlock the screw on the camera bracket through using the torque wrench supplied
- Set the camera's viewing angle then lock the screw on the bracket.

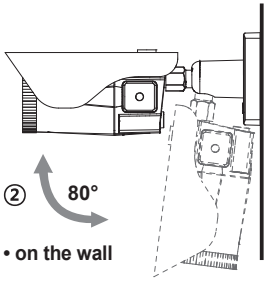
1) Pan limit:
Pan is limited to +/- 90°.



2) Tilt limit:
Tilt is limited to 0°(2°) min ~ 90° max. for wall(ceiling) installation respectively with reference to the wall(ceiling) when the inclination of camera module is 0°, that is, the image is aligned horizontally.

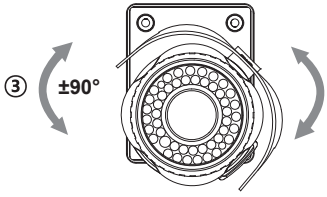


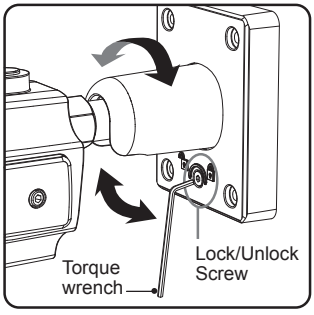
• on the ceiling



• on the wall

3) Inclination limit
(Horizontal image alignment):
Inclination limited to +/-90° max.





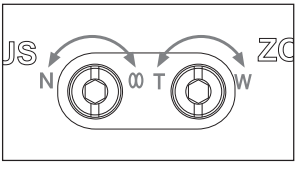
■ Adjustment of viewing angle with one-touch 3-Axis bracket

Installation Instructions

Zoom & Focus adjustments

Use the torque wrench supplied.

- Turn the Focus gear to “N”(Near) or “∞”(Far) until the sharpest focus is made.
- To widen the viewing angle, turn the Zoom to “W”(Wide) and to obtain a closer view, turn it to “T”(Tele)

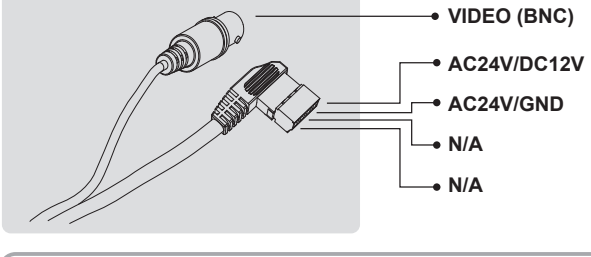


Installation and commissioning Instructions

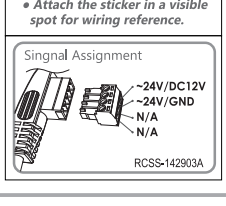
- Make sure the power is removed before the installation.
- Follow the order for applying power.
  First, connect the low voltage (AC24V or DC12V), then plug the AC adapter into AC outlet to avoid an improper reset from power jitter and damage from the surge voltage when no load.

Power Supply Connections

Camera can work with either 24VAC or 12VDC, dual voltage power.
Primary and secondary grounds are completely isolated to avoid possible ground-loop problems

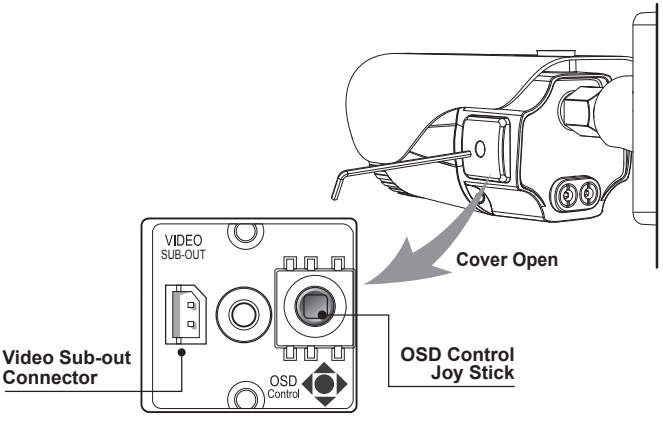


※ Attach the Signal Assignment Sticker in a visible spot for wiring reference.



Using OSD controller

Setup menu can be accessed and controlled by OSD control joy stick on the side of camera unit.
Five commands are available with the joy stick.
The design of OSD could be different according to the Model.



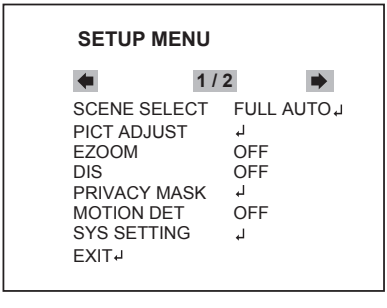
Description of the joystick operation

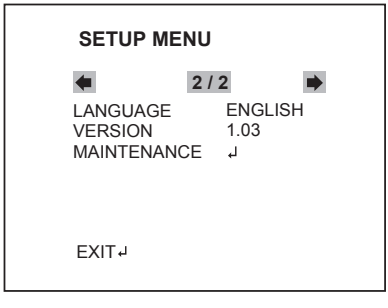
1) SET Key (●) : Access to the menu or enter the setting.
   To enter the main menu, press the Set Key down.
2) UP/DOWN Key (▲/▼) : Choose the desired sub-menu and to move the cursor up or down.
3) LEFT/RIGHT Key (◄/►) : Set up the value of the selected menu. Used to adjust the desired menu selection and to move the cursor left or right.

OSD menu Startup

Press the 'OSD menu SET key' down to access the setup menu mode.

- ⬅ / ➡ : Selects previous page or next page.
- EXIT : Enters 'EXIT' menu.
- RETURN : Returns to the previous menu.





OSD menu Table

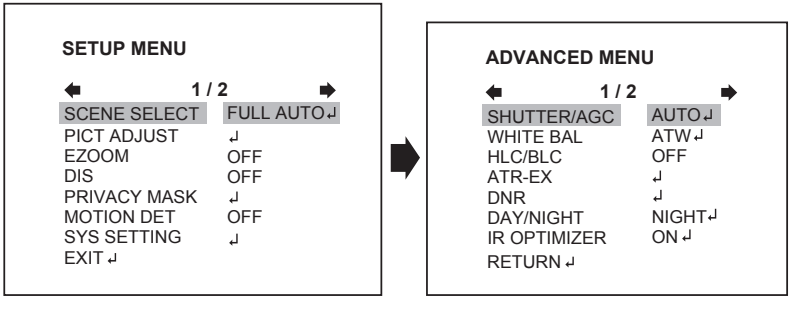
SETUP MENU	ADVANCED MENU	CONFIGURATION		
SCENE SELECT	FULL AUTO/ INDOOR/ OUTDOOR/ BACKLIGHT/ ITS/ CUSTOM			
	SHUTTER/AGC	AUTO	AE LEVEL	095
			AGC MAX	36 DB
			SENS UP	OFF
		MANUAL	SHUTTER	1/50(1/60)
			AGC MAX	44.8 DB
		FIX	SHUTTER	1/50(1/60)
			AGC MAX	6.0 DB
	WHITE BAL	ATW	SPEED	230
			DELAY CNT	020
			ATW FRAME	200
			ENVIRONMENT	INDOOR
	HLC / BLC	OFF		
		HLC	CLIP LEVEL	010

SCENE SELECT	ATR-EX			
	DNR	LEVEL	3	
	DAY/NIGHT	AUTO	BURST	OFF
			CNTL SIGNAL	EXT1
			DELAY CNT	005
			DAY->NIGHT	078
			NIGHT->DAY	120
		DAY		
		NIGHT	BURST	OFF
	IR OPTIMIZER	ON	MODE	AUTO
			IR AREA	---
			LEVEL	02
			IR LED	DAY/NIGHT / OFF/ FIX
			COLOR NIGHT	OFF / ON
			IR SHADE COMP	OFF / ON
		OFF (default)		
	LENS SHD COMP	OFF		
		ON	PATTERN	SET1/2/3
			POSH	480
			POSV	290
	DEFOG	OFF		
		ON	LEVEL	MID
	FLK LESS	OFF		
		AUTO (default)	MODE	SHUTTER FIX
		ON	MODE	SHUTTER FIX
	ANTI CR	AUTO / OFF / ON		
PICT ADJUST	BRIGHTNESS	110		
	CONTRAST	30		
	SHARPNESS	08		
	HUE	064		
	COLOR GAIN	128		
EZOOM	OFF (default)			
	ON	MAG	000	
		PAN	512	
		TILT	256	
DIS	OFF (default) / ON			
PRIVACY MASK	AREA SEL	1/15		
	DISPLAY	OFF		

PRIVACY MASK	POSITION			
	COLOR			
	TRANSP			
	MOSAIC			
MOTION DET	OFF (default)			
	ON	DETECT SENSE	111	
		INTERVAL	001	
		BLOCK DISP	OFF	
		MASK AREA		
		MONITOR AREA	AREA SEL	1/4
			AREA MODE	OFF
			TOP	03
			BOTTOM	04
			LEFT	04
			RIGHT	08
SYS SETTING	LENS	AUTO	TYPE	DC
			MODE	AUTO
			ADJUST	
			SPEED	030
	FLIP	OFF / V / H / HV		
	LCD / CRT	CRT		
	COMMUNICATION* (Option)	PROTOCOL	PELCO-D	
		ADDRESS	001	
		BAUDRATE	9600	
		DATABIT	8	
		PARITY	OFF	
		STOPBIT	1	
	CAMERA ID	OFF / ON		
LANGUAGE	English/ Spanish/ Russian/ Portuguese/ German/ French/ Chinese/ Japanese			
VERSION	1.03			
MAINTENANCE	W.PIX MASK	MANUAL	REGISTRATION	
			REG. POINT	
			CURSOR COLOR	
			BLINK	
			REG. NUMBER	
		AUTO	LEVEL1 / LEVEL2 / AUTO	
		DATA CLEAR	YES / NO	
	CAMERA RESET			
EXIT	SAVE / NOT SAVE / CANCEL / BACK			

OSD menu Setup

Press the OSD menu SET key down to access the setup menu mode.



1. SCENE SELECT

These options have been pre-configured at the factory for optimal performance. You can choose one of FULL AUTO, INDOOR, OUTDOOR, BACKLIGHT, ITS and CUSTOM according to the environments.
Each SCENE preset offers how to set SHUTTER +AGC, WHITE BAL, HLC/BLC, WDR/ATR-EX, DNR, DAY/NIGHT, IR OPTIMIZER, LENS SHD COMP, DEFOG, FLK LESS, and ANTI CR functions to get the best image for the SCENE SELECT.

> FULL AUTO: Optimized for the general scene.
> INDOOR: Optimized of indoor environment.
> OUTDOOR: Optimized of outdoor environment.
> BACKLIGHT: Optimized for backlight condition such as near the window in daylight.
> ITS: Optimized for the environment on traffic roads.
> CUSTOM: Setting for user customized environment.

If the selected preset does not seem to be the best choice, the further adjustments are available in each preset.

1-1. SHUTTER/AGC

Sets the SHUTTER/AGC level to AUTO, MANUAL or FIX.

1-1-1. AUTO:

Video level is automatically controlled to follow the settings of AE LEVEL, AGC MAX, SENS UP. In this mode, 'DC Auto Iris Lens' and 'Fixed Lens' are available.

1-1-2. MANUAL:

Video level is manually controlled by the settings of SHUTTER, AGC MAX. In this mode, 'DC Auto Iris Lens' is only available.

1-1-3. FIX:

Video level is fixed in any conditions by the setting of SHUTTER, AGC MAX.

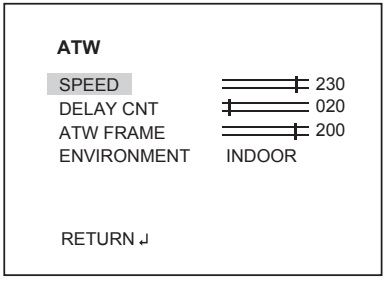
1-2. WHITE BAL

Can set the WHITE BALANCE mode.

1-2-1. ATW (Auto Trace White Balance):

Automatically tracks the changes of color temperature and continuously adjusts the white balance. The white balance range is 1,800°K~10,500°K.

Note: *If you set to 'CUSTOM' mode in 'SCENE SELECT' menu, the 'WHITE BAL' sub-menu will be appeared 'ATW/ PUSH/ USER1/ USER2/ MANUAL/ PUSH LOCK' functions that you can select one.*
Other modes in 'SCENE SELECT' menu, the 'WHITE BAL' sub-menu is only 'ATW' function.



• **SPEED** (default: 230):

Sets the AWB(Automatic White Balance) compensating speed. Lower value makes AWB faster. ** Too fast AWB may make the color oscillation.*

• **DELAY CNT** (default: 020):

Adjusts the AWB compensation delay to next update of AWB.
The smaller value will update AWB more frequently (faster).

• **ATW FRAME** (default: 200):

Determines the ATW range with respect to the fundamental range. Higher value extends the ATW range at lower and higher color temperature.

• **ENVIRONMENT** (default: INDOOR):
Selects INDOOR, SUNNY, SHADE or AUTO
Their ATW is optimized for the limited application and can not cover

> INDOOR : Optimized for Indoor installation and more easily compensates ATW for low color temperature such as incandescent lights.

> SUNNY : Optimized for outdoor sunlight applications and more easily compensates ATW for high color temperature such as sunlight.

> SHADE : Optimized for shade area compensation.

> AUTO : Optimized for general scene.

1-3. HLC/BLC

HLC (Highlight Cut out) :
This function is used to black out highlighted areas, in order to enable a clear visual image of objects, such as the license plates of an oncoming vehicle or other objects that may be obstructed by headlamps.

BLC (Backlight Compensation) :
This function is used to brighten an image in the foreground with a highly light area behind it such as sunlight, limiting the affect of silhouette.

1-3-1. OFF: Disables HLC and BLC functions.

1-3-2. HLC:

HLC clips out the highlight area and masks it as black color.
Video will be clipped out and masked for the area which exceeds CLIP LEVEL.

• **CLIP LEVEL** (default: 010):

Defines the threshold level for HLC. Lower value masks more.

1-3-3. BLC: Sets BLC function enables or disables

Note: *BLC is available only in 'CUSTOM' scene preset.*

1-4. ATR-EX (Adaptive Tone Reproduction-EX)

Sets enabling/disabling ATR compensation for the better dynamic range (D-WDR) of the image.
ATR feature improves the dynamic range and the visibility of the image by providing the optimal gradation compensation of the image in one field. This is achieved by two ways of image processing, luminance compression and contrast enhancement, so that the tone can be enhanced at highlight and dark area.

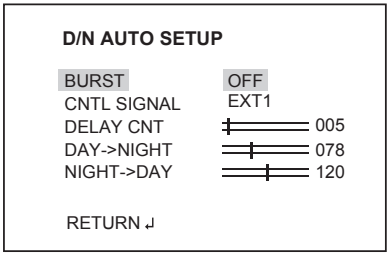
1-5. DNR

DNR(Digital Noise Reduction) function improves picture quality by filtering out signal noise which is generated under the low light conditions.
It is 3DNR(3-dimensional noise reduction) which reduces the noise by the multi frames. Noise Reduction is effective at low light. Setting high level is strength of noise reduction but the result may occur in loss of sharpness and the tail effect of a comet.

1-6. DAY/NIGHT

This function is used to control the setting during day-time and night-time operation.

1-6-1. AUTO



AUTO mode in DAY/NIGHT is used only for a camera which does not have a light sensor. Camera switches DAY from/to NIGHT automatically along with the amount of light through the lens.

• **BURST** (default: OFF)

BURST determines whether a color burst signal keeps output or eliminated when camera switches to B/W.
If set to ON, B/W video signal contains color burst signal and is compatible with the color equipment but shows the same resolution as color video.
If set OFF, the color burst signal is removed from B/W video and shows better resolution but rarely the compatibility problem may occur with the color equipment.

• **CNTL SIGNAL** (default: EXT1):

DAY/NIGHT is switched by amount of light through the lens.
Selects one of 'INT/EXT1/EXT2'

• **DELAY CNT** (default: 005)

DELAY CNT is time in second while camera maintains its status before Day↔ Night switches. DELAY can avoid the unwanted/frivolous switching by a short term lights such as light from the passing car.

• **DAY -> NIGHT** (default: 078)

DAY→NIGHT is a threshold level which determines to switch from DAY to NIGHT. Lower(Higher) value makes the camera switch from Day to Night at lower(higher) illumination. If it stays in Day(Color) mode at night time, increase DAY→NIGHT threshold value until it just switches to Night.
** Examine and verify Day/Night operation according to IMPORTANT ACTIVITY*

• **NIGHT -> DAY** (default: 120)

NIGHT→DAY is a threshold level which determines to switch from NIGHT to DAY. Lower(Higher) value makes the camera switched from Night to Day at lower(higher) illumination. If it stays in Night(B/W) mode at day time, decrease NIGHT->DAY threshold value until it just switches to Day
** Examine and verify Day/Night operation according to IMPORTANT ACTIVITY*

1-6-2. DAY : The camera is always in Color mode.

1-6-3. NIGHT : The camera is always in B/W mode.

• **BURST** (default: OFF) :

Sets the BURST option ON/OFF to output burst signal in B/W mode.

CAUTION

- Verify 'DAY/NIGHT' after completing all settings of lens for zoom and focus.
- If the gap between DAY->NIGHT and NIGHT->DAY is too small, camera may repeat switching DAY from/to NIGHT. If NIGHT->DAY is decreased from the Factory default, the same amount is recommended for DAY->NIGHT to avoid repeating DAY<->NIGHT unintentionally.

IMPORTANT ACTIVITY

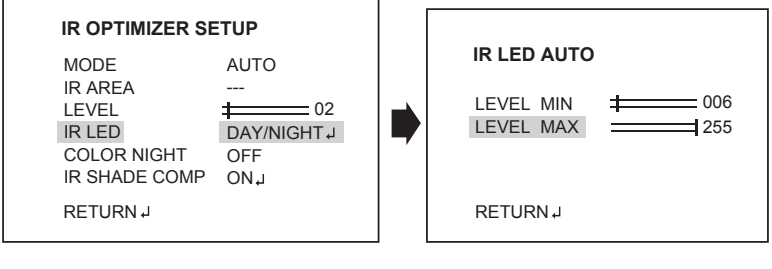
DAY->NIGHT and NIGHT->DAY operations must be examined and verified at the final installation.

Block the lens for a few seconds for NIGHT mode and release and let it return to DAY mode. If camera stays at NIGHT mode more than 10sec, decrease NIGHT->DAY THRES a little and repeat the fore-mentioned steps. If the scene is too dim or lens iris was adjusted too low(near close), it may not return to DAY.

1-7. IR OPTIMIZER (default: OFF)

This function is effective built-in LED models in NIGHT mode only.
If subjects which can cause overexposure are located near the monitored area, you can adjust IR OPTIMIZER level or area.

- OFF : Object which is strongly illuminated by IR LED can saturate.
- ON : Object even which is strongly illuminated by IR LED can be managed not to saturate. Side areas which are weakly illuminated can be compensated to bright up depending on the case. Noise may increase at the entire video.



1-7-1. MODE : AUTO

Reducing the over-saturation is automatically adjusted along with the location of the subject.

1-7-2. IR AREA :

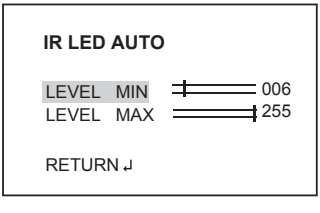
Sets the IR OPTIMIZER AREA and the function works selected area in 'CUSTOM preset only.

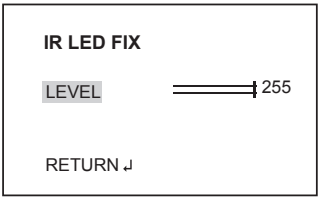
1-7-3. LEVEL (default: 02):

This function is used to adjust the overall when IR OPTIMIZER is working. If the LEVEL is too high, the over-saturation could occur.

1-7-4. IR LED: Sets the IR LED ON/OFF controlling

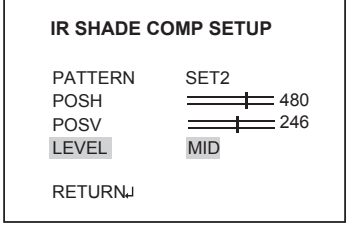
- **DAY/NIGHT** : Follows the setting automatically DAY/NIGHT function.
- **OFF** : Turns IR LED off.
- **FIX** : Fixes the brightness of IR LED in any condition.





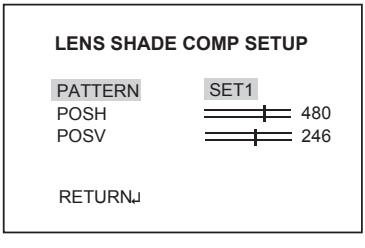
1-7-5. COLOR NIGHT (default: OFF): Displays night video in color.

1-7-6. IR SHADE COMP (default: ON): This function is used to compensate for IR shade of the side area on screen when IR LED is ON. You can adjust the shading PATTERN, POSITION and LEVEL.
If the LEVEL is high, the screen noise could be increased at the side area.



1-8. LENS SHD COMP (default: OFF)

This function is used to caculate the compensation data for lens shading.
Convex shape of the lens causes the light to enter the camera unevenly and typically makes the center of the screen brighter than the rest. It is used to compensate for this undesirable effect and make the screen more even.
Set to 'ON', you can adjust the shading PATTERN and POSITION.



1-9. DEFOG (default: ON)

This function is used to carry out defog function. Sets LEVEL to eliminate amount of fog on screen.
If the DEFOG is set to ON, the WDR/BLC function will be deactivated.

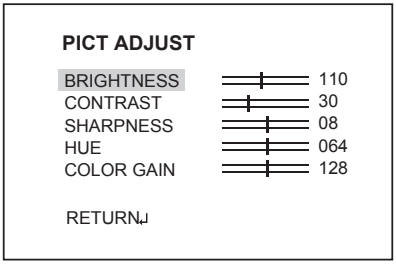
1-10. FLK LESS (default: AUTO)

This function is used to remove the flickering on screen due to differences in light and electric frequencies. Selects AUTO, OFF or ON.

1-11. ANTI-CR (default: AUTO)

This mode can minimize the problems related to color rolling caused by differences between the flicker of fluorescent lights and the frequency of the camera.
Selects AUTO, OFF or ON

2. PICT ADJUST



2-1. BRIGHTNESS (default: 110):

Increases or decreases the brightness of the picture.
This is different from that of DC iris lens and simply increases or decreases the digital gain of video. Do not increase this too much, the dynamic range for the highlight area will decrease.

2-2. CONTRAST (default: 30):

Adjusts the strength of the image contrast. If set to too high, the dark area may loss detail and the high luminance area may saturate.

2-3. SHARPNESS (default: 08):

Increases or decreases the sharpness of the picture.
Too much sharpness can make image harsh and show more noise as well as line flicker at the edge of object in the picture.

2-4. HUE (default: 064): Adjusts hue for NTSC version only.

2-5. COLOR GAIN (default: 128): Increases or decreases the color saturation.

3. EZOOM (default: OFF):

Sets the maximum digital zoom magnification. E.ZOOM function enlarges the pixel itself, which can cause deterioration of the picture quality.

3-1. MAG (default: 000):

MAG is the magnification ratio of the electronic zoom. Sets from x000 to x255.

3-2. PAN (default: 512):

When MAG is greater than 0, the electronic pan is available.
000 is the left most pan and 1023 is the right most pan.

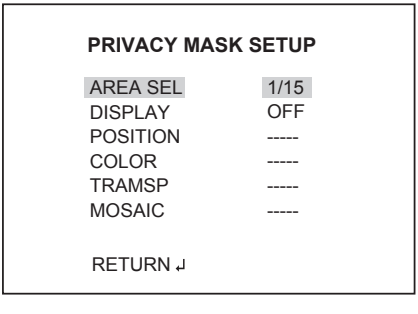
3-3. TILT (default: 256):
When MAG is greater than 0, the electronic tilt is available.
000 is the upper most tilt and 511 is the lower most tilt.

4. DIS (Digital Image Stabilization)

This function is used to reduce and stabilizes the shaky image from a camera installed in the vibrated area. FOV(Field of view) will be reduced if set to ON.

5. PRIVACY MASK

Sets ON/OFF for enabling/disabling PRIVACY.
Up to 15 privacy areas are available and each area is programmable in size and location. The number of privacy areas is limited to four when MOTION DET > MONITOR AREA is ON.
The privacy areas are masked with the color selected by PRIVACY MASK>COLOR.



5-1. AREA SEL (default: 1/15): Selects one of AREA1~AREA15 to be adjusted.

5-2. DISPLAY (default: OFF)
Displays OFF/ON for the mask area which you selected 'AREA SEL'

5-3. POSITION : Adjusts the mask area X,Y-Axis position which you selected 'AREA SEL'
- TOP/BOTTOM: ◄button moves up and ►button moves down the top (bottom) border of the selected window at AREA SEL.
- LEFT/RIGHT: ◄button moves left and ►button moves right the left (right) border of the selected window at AREA SEL.

5-4. COLOR : Selects one of 8 colors (Red, Green, Blue, Yellow, Cyan, Magenta, White, Black) for the selected mask window at AREA SEL.

5-5. TRANSP : Transparency rate for the mask can be adjusted.
0.00 - Mask is fully transparent and not visible.
0.50 - Mask is 50% transparent.
0.75 - Mask is 25% transparent.
1.00 - Mask is not transparent.

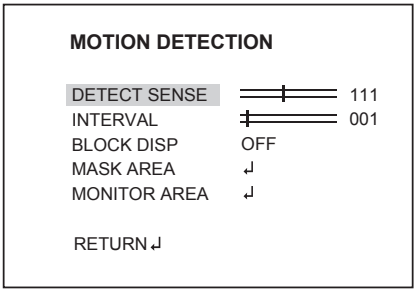
5-6. MOSAIC : Enables or disables the mosaic effect for the selected mask window at AREA SEL

6. MOTION DET

Up to 4 motion detection areas are available and each area is programmable in size and location. The motion is displayed by means of blocks when MOTION DET and MOTION DET>BLOCK DISP are ON.

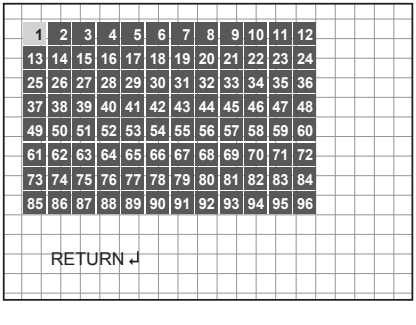
6-1. DETECT SENSE (default:111)
Adjusts the sensitivity for detecting motion.
Higher value is more sensitive.

6-2. INTERVAL (default: 001)
Sets the interval time from the starting of motion operation until being ready for the next motion operation.



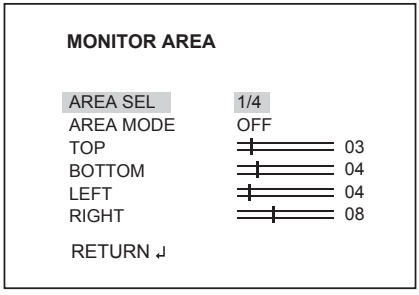
6-3. BLOCK DISP (default: OFF)
Enables or disables displaying blocks for the area which the motion is detected.

6-4. MASK AREA
Sets MASK AREA for disabling MOTION DETECTION.
Selects number of area sels to set the area you need.



6-5. MONITOR AREA

Sets the MOTION DETECTION area on screen.



6-5-1. AREA SEL (default: 1/4) : Selects one of AREA1~AREA4 to be adjusted. Each area is displayed with the color. AREA1-Red, AREA2-Green, AREA3-Blue, AREA4-Yellow

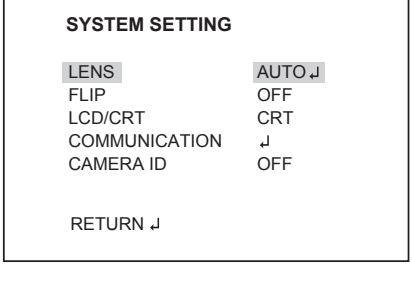
6-5-2. AREA MODE (default: OFF):
Setting ON is activated the AREA SEL which you selected.

6-5-3. TOP/ BOOTTOM / LEFT / RIGHT
Sets the AREA SEL box sizes and positions with four direction points.

- TOP/BOTTOM: ◄button moves up and ►button moves down the top (bottom) border of the selected window at AREA SEL.
- LEFT/RIGHT: ◄button moves left and ►button moves right the left (right) border of the selected window at AREA SEL.

7. SYS SETTING

Sets the system related functions.



7-1. LENS

: Selects the lens type, AUTO or MANUAL. AUTO supports DC auto-iris lens only.

7-1-1. AUTO

- **TYPE** (default: DC):
  This camera does NOT support video type auto iris lens.
  MUST BE SET TO DC ONLY.
- **MODE** (default: AUTO):
  Lens iris is automatically controlled according to the scene light level.
- **ADJUST** : Adjusts lens open control regardless of the light level.
- **SPEED** (default: 30):
  Adjusts the iris control speed. The lower value is the faster speed.
  If the speed is too slow or fast, the iris control may be unstable.

7-2. FLIP (default: OFF): It is used to inverse the pictures coming from the camera.

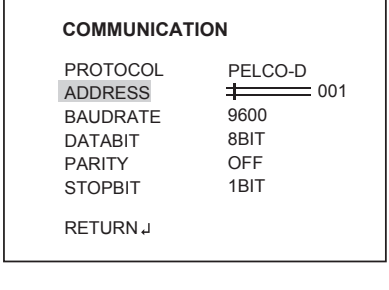
- **V** : Flips the video signals vertically.
- **H** : Flips the video signals horizontally.
- **HV** : Flips the video signals horizontally and vertically.

7-3. LCD/CRT (default: CRT):

Selects the correct type of viewing monitor will ensure the most optimal picture.

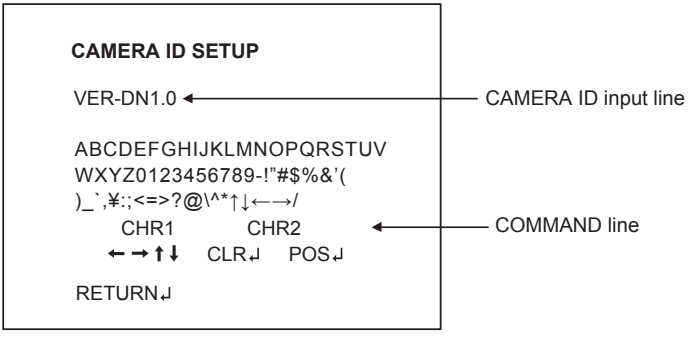
7-4. COMMUNICATION

Sets the communication related function.
PROTOCOL(PELCO-D), BAUDRATE(9600), DATABIT(8), PARITY(OFF), STOPBIT(1) are fixed. Can sets only ADDRESS number.



7-5. CAMERA ID

Sets ON/OFF for enabling/disabling of ID display. Factory default ID is Software version of camera. User programmed camera ID will be lost and restored with factory default ID by CAMERA RESET.
Up to 40 characters can be input for camera ID.



● Use four direction buttons (▲/▼/◄/►) to move a block cursor in character table and press a set button (◙) to input the selected character.
To move the character input position on CAMERA ID input line, move a cursor to ← or → on COMMAND LINE and press a set button on ← or →.

● **CLR** : To clear CAMERA ID input line, move a cursor to CLR on COMMAND LINE and press a set button (◙).

● **POS** : To set the location of CAM TITLE to be displayed on the monitor, move a cursor to POS and press a set button (◙) and then the OSD menu disappears and CAMERA ID will be displayed on the monitor.
Move CAMERA ID where desired position by using four direction buttons (▲/▼/◄/ ►) then press a set button (◙) to fix. The OSD Menu will appear again.

8. LANGUAGE

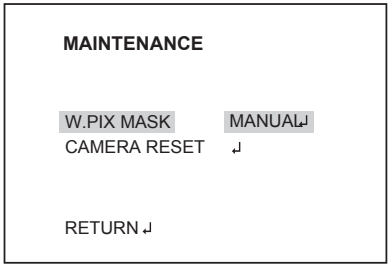
8 languages, ENGLISH, SPANISH, RUSSIAN, PORTUGUESE, GERMAN, FRENCH, CHINESE and JAPANESE are available.

9. VERSION

The camera firmware version is displayed.

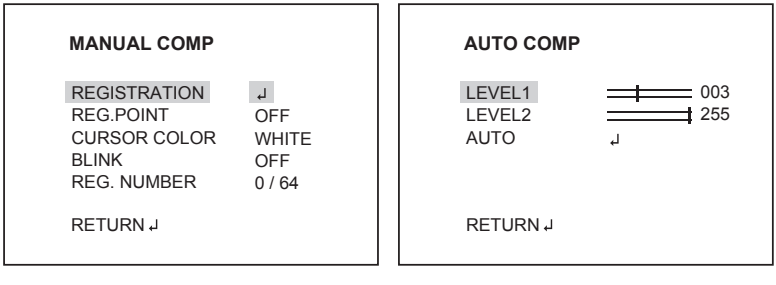
10. MAINTENANCE

Sets the OSD menu user environments and Camera reset.



10-1. W.PIX MASK

This function is used to compensate white pixels(defective pixels).



10-1-1. MANUAL COMP

: Setting for white pixel(defective pixels) compensation manually.

- **REGISTRATION** : Detects each white pixel using the cursor.
- **REG. POINT** : Displays white pixels on color which you detected.
- **CURSOR COLOR** : Selects cursor color one of green, red, or blue.
- **BLINK** : Sets the cursor blink or not.
- **REG. NUMBER** : Displays quantity of detected white pixels.

10-1-2. AUTO COMP

: Setting for white pixels(defective pixels) compensation automatically.

- **LEVEL1** : Sets the threshold of the detection for white pixels.
- **LEVEL2** : Sets the threshold of the detection for very large white pixels.
- **AUTO** : Starts the automatic detection of white pixels.

10-1-3. DATA CLEAR

: Clear the W.PIX data or not.

10-2. CAMERA RESET

This function is used to reset to the factory defaults of the camera settings. RESET and EXIT the OSD menu.

11. EXIT

Exits SETUP MENU and returns to the normal display.

11-1. SAVE : Save all the setting before exit the setup menu.

11-2. NOT SAVE : Exit the setup menu without save.

11-3. CANCEL : Cancel the exit mode.

11-4. BACK : Go back to the previous menu mode.

Detailed Specifications

Image Device	1/3" 960H High Density Sony® CCD
Resolution	750TV Lines
Effective Pixels	976(H) x 494(V)
Minimum Illumination	0.003 Lux (Sens-up Off) / 0 Lux (IR-ON)
Infrared LEDs	40 850nm IR LEDs
IR Distance	Over 150 Feet
Built-In Lens	3.5-16mm DC A/I, Switched IR Cut Filter D/N Lens
Day/Night	True Day/Night by ICR
WDR	E-WDR by ATR-EX
Noise Reduction	XD-DNR (2D+3D DNR)
Motion Detection	24x16 Grid
Privacy Mask	Up to 15 programmable mask areas
White Balance	ATW / PUSH / USER1 / USER2 / MANUAL / PUSH LOCK
Light Compensation	HLC/BLC
S/N Ratio	52dB with AGC OFF at 50 IRE
Electronic Iris	1/60~1/100,000sec
Water Resistance	IP68
Power Source	UL Certified: 12VDC/24VAC (Dual Voltage)
Power Consumption (12VDC)	110mA / 520mA (IR OFF/ON)
Power Consumption (24VAC)	120mA / 470mA (IR OFF/ON)
Installation Temperature	-4°F~122°F (-20°C~50°C)
Operation Temperature	-58°F~122°F (-50°C~50°C) @ 85%RH
Length	Ceiling Mounted: 9.5" (241mm) / Wall Mounted: 11.375" (289mm)
Width	Camera: 3" (76mm) / Camera w/Sun Shield: 4.375" (111mm)
Height	Ceiling Mounted: 6" (152mm)
Weight	2.65 lbs. (1202g)

LIMITED LIABILITY WARRANTY

VITEK products carry a three (3) year limited warranty. VITEK warrants to the purchaser that products manufactured by VITEK are free of any rightful claim of infringement or the like, and when used in the manner intended, will be free of defects in materials and workmanship for a period of three (3) years, or as otherwise stated above, from the date of purchase by the end user. This warranty is nontransferable and extends only to the original buyer or end user customer of a VITEK Authorized Reseller.

The product must have been used only for its intended purpose, and not been subjected to damage by misuse, willful or accidental damage, caused by excessive voltage or lightning.

The product must not have been tampered with in any way or the guarantee will be considered null and void.

This guarantee does not affect your statutory rights.

Contact your local VITEK Reseller should servicing become necessary.

VITEK makes no warranty or guarantee whatsoever with respect to products sold or purchased through unauthorized sales channels. Warranty support is available only if product is purchased through a VITEK Authorized Reseller.

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